



Universidad
**Católica de
Valencia**
San Vicente Mártir



TEACHING GUIDE

**Official Master's Degree in Teacher Training
for Secondary, Baccalaureate, Vocational
Training and Language Teaching**

TEACHING RESOURCES FOR TECHNOLOGY EDUCATION

Course 2023-2024



TEACHING GUIDE:

TEACHING RESOURCES FOR TECHNOLOGY EDUCATION

		ECTS
SUBJECT: DIDACTIC RESOURCES FOR TECHNOLOGY EDUCATION		6
Subject: Learning and Teaching Technology		12
Module: Specific Technology Module		24
Type: REQUIRED	CURSE: 2022/23 Semester: 2º	
Faculty: Dra. Rocío Fernández Piqueras	Department: General Didactics, Theory of Education and Technological Innovation	
	E-mail: rocio@ucv.es	

PLANNING

Specific Technology Module	Nº ECTS 24
Duration and temporal location within the curriculum: <p>The subject is taught in the second semester, within the subject "Learning and teaching of the corresponding subjects (Technology)", when students have already studied other subjects and have begun the Practicum.</p> <p>This subject, within the specific module, aims to introduce teachers to the knowledge and management of teaching resources for the teaching-learning process in the area of Technology, emphasising the need for teachers to have their own resources, to develop their own teaching materials and to know how to make a critical analysis of teaching materials and resources, in order to achieve the objectives of the area adequately for their students.</p> <p>This approach to teaching resources is carried out specifically from the point of view of ICT, promoting the use of information and communication technologies by teachers, including here the new teaching frameworks (e-learning), introducing teachers to the world of virtual classrooms as a resource for teaching-learning processes.</p>	



In an equally relevant way, this subject brings teachers closer to the organisation and management of workshops in the technology area, favouring the practice that all teachers must previously carry out on workshop projects before taking them to their subject and, more specifically, to their technology workshop.

The subject Didactic resources for the teaching of technology aims to deal with the following contents:

- Teaching resources and materials and their relation to the area of technology.
- The project method as a teaching resource.
- Classroom resources and materials, ICT resources.
- Resources for the technology workshop classroom.
- Approach to e-learning. The virtual classroom in the teaching-learning process, applied to the area of Technology.

Subjects

Subjects	ECTS	Specific Subjects	ECTS	Curso/ semestre
Complements to disciplinary training	6	Technology in Secondary Education	6	1/1
Learning and teaching of relevant subjects	12	Didactics of Technology	6	1/1
		Teaching resources for technology education	6	1/2
Innovation in teaching, initiation to educational research	6	Innovation and research in Didactics of Technology	6	1/2

BASIC AND GENERIC SKILLS	Weighting of skills			
Instrumentals	1	2	3	4
G1 Know how to apply acquired knowledge and problem-solving skills in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their area of study.			X	



G2 Be able to integrate knowledge and deal with the complexity of making judgements based on incomplete or limited information, including reflections on the social and ethical responsibilities linked to the application of their knowledge and judgements.			X	
G3 Know how to communicate their conclusions (and the knowledge and rationale behind them) to specialist and non-specialist audiences in a clear and unambiguous way.				X
G4 Possess the learning skills that will enable them to continue studying in a largely self-directed or autonomous way.			X	
G5 Knowledge of the curricular contents of the subjects related to the respective teaching specialisation, as well as the body of didactic knowledge about the respective teaching and learning processes. For professional training, this includes knowledge of the respective professions.				X
G6 Planning, developing and evaluating the teaching and learning process, promoting educational processes that facilitate the acquisition of the competences of the respective courses, taking into account the level and previous training of the students, as well as their orientation, both individually and in collaboration with other teachers and professionals of the centre.				X
G7 Searching for, obtaining, processing and communicating information (oral, printed, audiovisual, digital or multimedia), transforming it into knowledge and applying it in the teaching and learning processes in the subjects of the specialisation studied.				X
Interpersonal	1	2	3	4
G10. Acquire strategies to stimulate student effort and promote their ability to learn on their own and with others, and to develop thinking and decision-making skills that facilitate personal autonomy, confidence and initiative.				X
G11. To understand the processes of interaction and communication in the classroom, to master the social skills and abilities necessary to promote learning and coexistence in the classroom, and to deal with discipline and conflict resolution problems.		X		
G15. Informing and advising families about the teaching and learning process and about the personal, academic and professional orientation of their children.	X			
Systemic	1	2	3	4



G8 To specify the curriculum to be implemented in a school by participating in its collective planning; to develop and apply both group and personalised teaching methodologies, adapted to the diversity of the students.		X		
G9. Design and develop learning spaces with special attention to equity, emotional and values education, equal rights and opportunities between men and women, citizenship training and respect for human rights that facilitate life in society, decision-making and the construction of a sustainable future.		X		
G12. Design and carry out formal and non-formal activities that contribute to making the centre a place of participation and culture in the environment where it is located; develop the functions of tutoring and guidance of students in a collaborative and coordinated manner; participate in the evaluation, research and innovation of teaching and learning processes.			X	
G13. Knowledge of the regulations and institutional organisation of the education system and models of quality improvement applicable to educational centres.	X			
G14. To know and analyse the historical characteristics of the teaching profession, its current situation, perspectives and interrelation with the social reality of each period.	X			

SPECIFIC SKILLS	Weighting of skills			
Conceptual	1	2	3	4
E1. To know the educational and cultural value of the subjects corresponding to the specialisation and the contents that are studied in the respective courses.			X	
E2. To know the history and recent developments of the subjects and their perspectives in order to be able to convey a dynamic vision of them.		X		
E3. To know contexts and situations in which the different curricular contents are used or applied.		X	X	
E4. Knowledge of theoretical and practical developments in the teaching and learning of the relevant subjects.	X			
Abilities	1	2	3	4
E5. Transforming curricula into work and activity programmes.		X	X	



E6. Acquire criteria for the selection and elaboration of educational materials.				X
E7. Promote a climate that facilitates learning and values student input.		X		
E8. Integrating audiovisual communication and multimedia training into the teaching-learning process.				X
E9. To know assessment strategies and techniques and to understand assessment as an instrument for regulating and stimulating effort.		X		
Professionals	1	2	3	4
E10. Knowing and applying innovative teaching proposals in the field of the specialisation studied.		X		
E11. Critically analyse the performance of teaching, good practice and guidance using quality indicators.	X			
E12. Identify problems related to the teaching and learning of the subjects of the specialisation and propose alternatives and solutions.		X		
E13. Know and apply basic educational research and evaluation methodologies and techniques and be able to design and develop research, innovation and evaluation projects.	X			

LEARNING OUTCOMES	SKILLS
RA: To understand, in its broadest sense, the concept of an educational resource, in order to critically analyse resources and didactic materials.	G1; G2; G3; G5; G6; G7; E1; E6; E7; E8; E9; E11; E12
RB: Use networks of analysis as a tool for critical analysis of teaching materials and resources.	G1; G3; G4; G5; G7; G10; E1; E6; E7; E8; E9; E11; E12
RC: Creation and/or adaptation of resources and materials resources and materials for an ordinary classroom, a workshop classroom and a for a virtual classroom in the area of technology.	G1; G3; G5; G6; G7; G9; G10; E1; E2; E3; E4; E5; E6; E7; E8; E9; E10; E12; E13
RD: Recognise the importance of the project method for the area of technology and to distinguish the various project models in the area of technology.	G2; G3; G4; G6; G8; G10; G12; G14; E1; E2; E3; E4; E5; E6; E8; E10



RE: Knowing how to work in a technology workshop classroom (equipment, educational methodologies, team building equipment, educational methodologies, team building, standards and safety, etc.).		G2; G4; G5; G6; G7;G9; G10; G11; G13; E1; E3; E5; E6; E7; E8;	
RF: Acquire criteria for the selection of classroom materials teacher, ICT materials and textbooks.		G1; G2; G3; G4; G5; G6; G7; G8; G10; G12; G15; E1; E2; E6; E7; E8; E9; E11; E12; E13	
RG: Know how to use a virtual classroom under the platform, providing it with resources and activities for students. Idem for the Classroom platform.		G1; G2; G3; G4; G5; G6; G7; G8; G10; G11; G12; G14; E3; E5; E6; E8; E10; E13	
TRAINING ACTIVITIES			
ACTIVITY	Teaching-Learning Methodology	Relationship to the Learning Outcomes of the subject	ECTS ₁
CLASS FACE-TO-FACE	Presentation of content by the teacher, analysis of competences, explanation and demonstration of skills, abilities and knowledge in the classroom.	RA; RB; RC; RD; RE; RF; RG	1
CLASSES PRACTICES	Group work sessions in groups supervised by the teacher. Case studies, diagnostic analysis, problems, field study, computer classroom, visits, data search, libraries, network, Internet, etc. Meaningful construction of knowledge through student interaction and activity.	RB; RC; RE; RF; RG	1
LABORATORY	Activities carried out in spaces with specialised equipment.	RE; RG	0.2
EXHIBITION GROUP WORK	Application of interdisciplinary knowledge.	RB; RC; RE; RG	0.1
TUTORING	Personalised and small group attention. Period of instruction and/or orientation by a tutor to review and discuss the materials	RC; RE; RF; RG	0.05

¹ The course and/or subject is organised into VIRTUAL TEACHING and STUDENT AUTONOMOUS WORK, with an estimated percentage in ECTS. A suitable distribution is as follows: 40% for the TEACHING Training Activities (60 hours) and 60% for the tutored Autonomous Work (90 hours) for a subject of 6 credits.



	and topics presented in the classes, seminars, readings, assignments, etc		
EVALUATION	A set of oral and/or written tests used in the initial, formative or summative assessment of the learner.	RA; RB; RC; RD; RE; RF; RG	0.05
Total			2,4


TRAINING ACTIVITIES FOR THE STUDENT'S AUTONOMOUS WORK			
ACTIVITY	Teaching-Learning Methodology	Relationship to the Learning Outcomes of the subject	ECTS
GROUP WORK	Group preparation of readings, essays, problem solving, seminars, papers, reports, etc. to present or deliver in theory classes, practical classes and/or small group tutorials. Work done on the university platform	RA; RB; RC; RD; RE; RF; RG	2.3
AUTONOMOUS WORK	Student study: Individual preparation of readings, essays, problem solving, seminars, papers, reports, etc. to present or deliver in theory classes, practical classes and/or small group tutorials. Work done on the university platform	RA; RB; RC; RD; RE; RF; RG	2.3
Total			3,6



SYSTEM OF EVALUATION OF THE ACQUISITION OF COMPETENCES AND THE GRADING SYSTEM		
Evaluation instrument	ASSESSED LEARNING OUTCOMES	Percentage awarded
Summative and final theoretical-practical test: <ul style="list-style-type: none">- Final test: 10%- Final project: 30%	RA; RB; RC; RD; RE; RF; RG	40 %
Process evaluation: portfolios, individual and group task evaluation	RC; RD; RE; RG	40 %
Oral presentation of group and individual work	RB; RC; RE; RG	10%
Continuous assessment: individual monitoring of attendance at face-to-face sessions and active participation in classes.	ALL	10%
<p>Criteria for the awarding of Honours Grades: 1 for every 30 students or fraction of 30.</p> <p>After obtaining a 9 and provided that the result is a consequence of excellent academic achievement combined with effort and interest in the subject.</p> <p>In the event that there are more candidates than possible matriculations to be awarded, they will be awarded in descending order according to the final average mark, starting with the candidate with the highest overall average mark.</p>		

DESCRIPTION OF CONTENTS	SKILLS
<p>Definition of a teaching resource and its relationship to the area of Technology.</p> <ul style="list-style-type: none">• Structure and functions of teaching resources.• Typology of resources/learning aids.• Analysis networks as an example of a teaching resource.• Analysis of on-line materials and resources in the area of technology.	E1; E6; E7;E8; E9; E11; E12



 The project method as a teaching resource. <ul style="list-style-type: none">• The teaching-learning process through the implementation of projects in the technology workshop classroom.• Project models in the area of Technologies.• Analysis and development of resources and materials for the Technology project.	E1; E2; E3; E4; E5; E6;E8; E10;
Resources for the classroom technology workshop. <ul style="list-style-type: none">• Description and characteristics of the technology workshop in secondary schools, distribution of materials and equipment of a technology workshop.• Safety in the technology workshop.• Group work methodologies for the technology workshop classroom.• Team building resources.• Analysis and development of resources and materials in the technology workshop classroom.	E1; E3; E5; E6; E7; E8;
Classroom resources. <ul style="list-style-type: none">• Materials for the technology teacher.• ICT resources in the area of technology.• Analysis and development of resources and materials for technology classes.	E1;E2; E6;E8; E9; E12
The virtual classroom in the teaching-learning process, applied to the area of technology. <ul style="list-style-type: none">• Approach to e-learning, basic notions of LMS platforms.• The free distribution platform moodle.• Analysis and development of resources and materials from a moodle course for the teaching-learning process of technology in secondary school.• Analysis, use and development of resources and materials from the Classroom platform.	E3; E5; E6;E8; E10; E13

BIBLIOGRAPHY

- Esteban, V. C. (2021). Medios, recursos didácticos y tecnología educativa.



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- Gómez Gilaberte, A., Parramón Ponz, E. y Sánchez-Seco, C. (2022). Tecnología y digitalización. Proyecto STAR. Ed. Donostiarra.
- Luz, C. G. M. (2018). Educación y tecnología: estrategias didácticas para la integración de las TIC. Editorial UNED.
- Moguel, C. (2014). Recursos didácticos y tecnológicos en educación.



Addendum to the Course Guide of the Subject

Due to the exceptional situation caused by the health crisis of the COVID-19 and taking into account the security measures related to the development of the educational activity in the Higher Education Institution teaching area, the following changes have been made in the guide of the subject to ensure that Students achieve their learning outcomes of the Subject:

Situation 1: Teaching without limited capacity (when the number of enrolled students is lower than the allowed capacity in classroom, according to the security measures taken).

In this case, no changes are made in the guide of the subject.

Situation 2: Teaching with limited capacity (when the number of enrolled students is higher than the allowed capacity in classroom, according to the security measures taken).

In this case, the following changes are made:

1. Educational Activities of Onsite Work:

All the foreseen activities to be developed in the classroom as indicated in this field of the guide of the subject will be made through a simultaneous teaching method combining onsite teaching in the classroom and synchronous online teaching.

Students will be able to attend classes onsite or to attend them online through the telematic tools provided by the university (videoconferences). In any case, students who attend classes onsite and who attend them by videoconference will rotate periodically.

In the particular case of this subject, these videoconferences will be made through:



Microsoft Teams

Situation 3: Confinement due to a new State of Alarm.

In this case, the following changes are made:

1. Educational Activities of Onsite Work:

All the foreseen onsite activities described in this section of the Course Guide, as well as the group and personalized tutoring, will be done with the telematic tools provided by the University, through:



Microsoft Teams

Explanation about the practical sessions:

2. System for Assessing the Acquisition of the competences and Assessment System

ONSITE WORK

Regarding the Assessment Tools:



The Assessment Tools will not be modified. If onsite assessment is not possible, it will be done online through the UCVnet Campus.



The following changes will be made to adapt the subject's assessment to the online teaching.



Course guide		Adaptation	
Assessment tool	Allocated Percentage	Description of the suggested changes	Platform to be used

The other Assessment Tools will not be modified with regards to what is indicated in the Course Guide.

Comments to the Assessment System:

ONLINE WORK

Regarding the Assessment Tools:



The Assessment Tools will not be modified. If onsite assessment is not possible, it will be done online through the UCVnet Campus.



The following changes will be made to adapt the subject's assessment to the online teaching.

Course guide		Adaptation	
Assessment tool	Allocated Percentage	Description of the suggested changes	Platform to be used

The other Assessment Tools will not be modified with regards to what is indicated in the Course Guide.